

# Transient Voltage Protection and Ground Status Monitoring Apparatus and Method

## Abstract

In accordance with the present invention, a method is provided whereby the transient voltages presented at the input to a watt-hour meter are suppressed to prevent damage to the watt-hour meter and to the electronic devices that are powered through the watt-hour meter. In addition to transient voltage protection, the method of the present invention also provides monitoring of the earth ground resistance, voltage and current of the earth ground conductor associated with the watt-hour meter. As such, voltage transients are suppressed when presented at the watt-hour meter through the power line input, ground resistance of the earth ground conductor is continuously monitored and the current and voltage conditions existing on the ground conductor are continuously monitored. Visual and audible indicators are provided to indicate quality issues with the grounding system and the effectiveness of the surge suppressor/arrestor.